AN UNDESCRIBED AND POSSIBLY EXOTIC BEETLE (SCARABAEIDAE: DYNASTINAE) OCCURRING ON THE SOUTH COAST OF NEW SOUTH WALES

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Abstract

The presence of a possibly exotic dynastine scarab is reported from the Moruya, Tuross and Bega districts of New South Wales. It belongs to an undescribed genus most closely related to the monospecific *Calicnemis* which is endemic to the western Mediterranean region and the French Atlantic coast. Collectors visiting the south coast of New South Wales are encouraged to seek additional specimens, the species presently being known only from three females.

Introduction

While checking accessions to the Australian National Insect Collection, two female specimens of a remarkable dynastine scarab were noted. These possess characters which readily distinguish them from any known indigenous species and they were presumed to be of exotic origin. One specimen was sent to Mr R. D. Pope of the British Museum (Natural History) who subsequently referred it to Dr Roger-Paul Dechambre of Paris. Dr Dechambre expressed the view (pers comm., 1978) that the species represents a genus closely similar to *Calicnemis* Castelnau which occurs in the western Mediterranean region. A third female specimen, collected seventy five years ago, was subsequently located in the collections of the New South Wales Department of Agriculture, Biological and Chemical Research Institute.

Material examined

NEW SOUTH WALES: Moruya Heads, coastal sand dunes, walking on surface towards dusk, 24.iii.1968 (K. Pullen), 1 ♀; Tuross Beach, 16 km S of Moruya, 26,i.1979 (S. Misko), 1 ♀ (both in ANIC); Bega, 9.iii.1905 (Edwards), 1 ♀ (N.S.W. Dept. of Agriculture).

Morphological characters

The beetles (Figs 1-3) are 12-14 mm in length, and a medium reddish brown in colour. The combination of characters which distinguish this species from all known indigenous Dynastinae is: clypeofrontal suture obliterated, the whole head with coarse concentric sculpturing (Fig. 1); antenna very short, 9-segmented; pronotum impunctate; foretibia with apical and single lateral tooth smoothly rounded; hind leg remarkably broad, strongly compressed (Fig. 2), and the tibia (Fig. 3) with sculpturing similar to that of head; all tarsi unusually short.

Dr Dechambre reported that the species is undescribed. Although it is very similar to *Calicnemis latreillei* Castelnau, the only known species in that genus, characters of antennal segmentation and the structure of the clypeus and maxilla indicate that the Australian species is generically distinct. *C. latreillei* inhabits beaches around the Mediterranean and on the southern French

Figs 1-3. Specimen from Tuross Beach, N.S.W.: (1) dorsal view of head and pronotum; (2) lateral view of whole insect; (3) ventral view of whole insect.

Atlantic coast. Sexual dimorphism in *C. latreillei* (as in a great many Dynastinae) is quite marked, the pronotum of the male bearing an anteromedian tubercle preceded by a depression of the pronotal disc.

Discussion

Caussanel and Dajoz (1967) gave an account of the biology and behaviour of *C. latreillei.* The beetle breeds in decaying timber submerged in beach sands. Prior to their studies adults had been collected only rarely as they emerge for flight 10-15 minutes after sunset, flights persist for no more than 20-25 minutes, and occur only on evenings when the air temperature and relative humidity exceed 15°C and 70 percent respectively; moreover, the insects are not attracted to lights. These workers succeeded in capturing a large number of specimens (over 500, with males predominating) by erecting a fine-mesh fishing net, 30 m long and 2 m high, across a beach, and (presumably) by picking up beetles which fell to the sand after colliding with the net.

The close similarity between the Australian species and *C. latreillei,* including the highly modified hind leg, suggests that their habits might be similar. If this is so, it could account for the fact that only three specimens are known, although the insect occurs in a well-collected area. It may, in reality, be quite abundant on the south coast of New South Wales, but have habits that make its capture by conventional collecting methods unlikely. The insect is so markedly different from any known Australian dynastine that the writer suspects that it may not be indigenous to this country. A littoral beetle, such as this species appears to be, could easily have been transported to Australia from overseas in ship's ballast of beach sand.

It is hoped that entomologists who visit the area during warm, humid weather in the January-March period will feel challenged to seek this interesting insect. It is highly desirable that males should be available for study before the new genus and species are described.

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Reference

Caussanel, C. and Dajoz, E., 1967. Morphologie et biologie d'un coleoptere des plages sableuses: *Callicnemis latreillei* Cast. (Scarabaeidae, Dynastinae). *Cahiers des Naturalistes* (n.s.) 23: 25-37.